

REMARKS/ARGUMENTS

Claims 1 through 12 remain in the case.

In the Action, claim 1 had a minor objection kindly pointed out by the Examiner. The Examiner's suggestion has been acted upon and it is therefore believed that the objection is overcome.

Turning to the rejections, claim 10 has been amended to indicate the unit operations which were previously missing.

In terms of the rejections under 35 U.S.C 103, the Examiner has applied the combination of the Clare et al. reference (U.S. Patent No. 4,789,461), together with Ohsol et al. (U.S. Patent No. 5,948,242).

The Examiner's position is that Clare et al. substantially teaches all of the steps of claims 1 through 9, 11 and 12, with the exception that Clare et al. does not specifically teach that the dehydrated crude is stripped or flashed to remove diluent from the dehydrated crude. For this reason, the Examiner has applied the Ohsol et al. reference as teaching a process for upgrading heavy crude oil where the oil diluent is heated and passed into a steam stripping zone to remove diluent from the oil product. For this reason, the Examiner's position is that it would have been obvious to modify the process of Clare et al. by separating diluent from the dehydrated crude by heating and stripping the dehydrated crude as taught by Ohsol et al. Applicant respectfully disagrees with the Examiner and would request consideration of the following position.

In respect of the Clare et al. reference, Applicant agrees that Clare et al. does not provide any teaching regarding recovery of diluent from the crude. In this case, it therefore follows that if Clare et al. were not concerned with the diluent, there could be no recirculation of any recovered diluent to the crude oil containing water in the separation phase. Applicant has claimed these two features in claim 1 and further has attributed very significant advantages to them. The Examiner's attention is directed to article 17 of the disclosure where recovery of the diluent is translated into a real world example.

As a further point of distinction, the Clare et al. process does not recirculate dry crude oil to the vaporizing surface. This is a clear point of distinction of the instantly

claimed invention over Clare et al. The Examiner's attention is directed to column 2, beginning at line 12, wherein the object of the Clare et al. invention is disclosed.

In respect of the Ohsol et al. disclosure, Applicant submits that Ohsol et al. does not contribute anything further to Clare et al. to advance the case of obviousness. In this manner, Applicant respectfully disagrees with the Examiner's position and would request careful consideration of the following position.

One of the prime directives of the Ohsol et al. invention is to separate solid materials from heavy crude oil. This is indicated at column 2, beginning at line 37. This is in marked contrast to Applicant's purpose which is to provide a highly economical process which produces dehydrated crude oil and recovers diluent, both of which operations are extremely valuable in crude oil processing. In the disclosure of the Ohsol et al. patent, beginning at column 5, line 26, it is indicated as follows:

"The hot, pressurized stream of crude and its additives is now passed through a flash controller in which the pressure is released to induce flashing of the stream to the extent that preferably 2 to 15 percent of the crude oil/water/solvent blend vaporizes on its way into a flash vessel, or vapor-liquid separator. **This flashing step causes water-oil emulsions to be broken into their separate components as described in U.S. Pat. No. ...**" (emphasis added)

Applicant submits that during this flashing procedure, the oil remains wet. In its claims, Applicant clearly describes the dry crude oil and further stipulates vaporization of the water in the crude. This is not a partial flashing step or a step which results in moisture retention in the crude oil, since this would completely defeat the point of Applicant's process. Applicant is solely interested in providing a dehydrated crude oil and recovering the diluent. By the passage noted above in Ohsol et al., it is evident that the composition retains water. Part of the point of this is to further treat the composition with a hydrocyclone. Applicant has no interest in this process whatsoever, and exposes the

crude oil containing the water to temperatures sufficient to vaporize the water thereby leaving a dehydrated crude. In terms of the diluent stripping and recirculation of recovered diluent from the crude oil, this is a further point of distinction over the Ohsol et al. reference. In the disclosure of Ohsol et al., there is a clear indication that diluent is added and this is for the purpose of reducing viscosity. There is indicated a second diluent addition step in column 7, which is required to break the emulsion (a result of the fact that the composition retains moisture as indicated in column 5).

Apart from the addition of diluent initially to the source of crude, Applicant does not engage in any further diluent addition whatsoever; the desirable goal with the claimed invention is to recover the maximum amount of diluent in order to achieve the results that have been outlined in the disclosure and previously commented upon. Apart from an initial viscosity reducing addition, the process advances to recover the maximum amount of diluent without further addition.

Claim 1 has been amended to amplify the recirculation of dehydrated crude oil and has also included an amendment to be consistent with that objection raised by the Examiner. In view of the significant differences presented in Ohsol et al., it is believed that Ohsol et al. does not, when standing alone or when taken in combination with Clare et al., substantiate a case of obviousness. In essence, Ohsol et al. does not contribute anything to Clare et al. for the purpose of bringing into question the patentability of the claims.

Turning to the double patenting rejection, the Examiner has indicated that a substantial number of the claims pending in the application are obvious over Applicant's earlier patent (U.S. Patent No. 6,372,123) in view of Ohsol et al. As the Examiner has acknowledged, the U.S. patent claims of the present Applicant do not claim a step of stripping diluent from the dehydrated crude and it is for this reason that Ohsol et al. has been added to the combination to allege that it would have been obvious.

As outlined in Applicant's position noted above, there is a significant difference in what Ohsol et al. teaches relative to what is taught in the instant application. Ohsol has a completely different purpose intended and cannot produce a dry crude oil which crude oil is further exposed to diluent recovery process for the maximum possible

effect of providing a very desirable dehydrated oil product together with maximum recovery of diluent. In view of the fact that the flashing step is indicate to be only of marginal water removal, Applicant's position is that Ohsol et al. would therefore add nothing to Applicant's previously issued patent. This is particularly true of the fact that the previous U.S. patent does not teach the step which is inherent in the instant process. Reconsideration by the Examiner is requested.

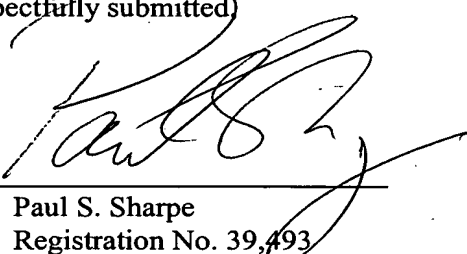
In terms of the application of the double patenting objection to claims 1 through 3, 7 through 9, 11 and 12, Applicant would submit a similar position and request reconsideration.

In view of the amendments made to the case and the position stated, it is Applicant's belief that the claims in this application now define over the references cited and made of record in the case, and further that the double patenting rejection is overcome.

The Examiner's careful consideration of all issues raised in this response is respectfully requested.

Respectfully submitted)

By


Paul S. Sharpe
Registration No. 39,493
Attorney for Applicant

PSS/sr

Address:
OGILVY RENAULT
1981 McGill College Avenue, Suite 1600
Montreal, Quebec H3A 2Y3
Canada
Telephone: (613) 780-8676 (direct)
Facsimile: (613) 230-6706